

AMENDMENTS TO THE CLAIMS

1 to 41. (Cancelled).

42. (New) A method for inhibiting polymerization of an amyloid β peptide in a patient in need thereof, comprising administering to said patient a therapeutic effective amount of a compound defined by the Formula:



wherein AA in said Formula corresponds to an amino acid sequence selected from the group consisting of:

His-Gln-Lys-Leu-Val-Phe;

His-His-Gln-Lys-Leu-Val-Phe-Phe-Ala-Glu;

His-His-Gln-Lys-Leu-Val-Phe;

Val-His-His-Gln-Lys-Leu-Val-Phe-Phe-Ala;

Val-His-His-Gln-Lys-Leu-Val-Phe;

Tyr-Glu-Val-His-His-Gln-Lys-Leu-Val-Phe; and

Gly-Tyr-Glu-Val-His-His-Gln-Lys-Leu-Val;

and wherein

R_1 is H or $-CO-R_3$ bonded at the α -amino group of the N-terminal of AA;

R_2 is H or $-OR_4$ or NR_5R_6 all bound to the α -carboxyl group of the α -carboxyterminal of AA;

R_3 is a straight or branched carbon chain of 1-4 carbon atoms;

R₄ is a straight or branched carbon chain of 1-4 carbon atoms;

R₅ and R₆ independently are H, alkyl, cycloalkyl, aryl or substituted aryl or together are

-(CH₂)_n-, where n is 4-5;

R₁ and R₂ together can form a hydrocarbon ring or heterocyclic ring; and

said amino acids can be either D- or L-isomers.

43. (New) A method for inhibiting polymerization of an amyloid β peptide, comprising contacting an amyloid β peptide-containing environment with a polymerization inhibiting effective amount of a compound defined by the Formula:



wherein AA in said Formula corresponds to an amino acid sequence selected from the group consisting of:

His-Gln-Lys-Leu-Val-Phe;

His-His-Gln-Lys-Leu-Val-Phe-Phe-Ala-Glu;

His-His-Gln-Lys-Leu-Val-Phe;

Val-His-His-Gln-Lys-Leu-Val-Phe-Phe-Ala;

Val-His-His-Gln-Lys-Leu-Val-Phe;

Tyr-Glu-Val-His-His-Gln-Lys-Leu-Val-Phe; and

Gly-Tyr-Glu-Val-His-His-Gln-Lys-Leu-Val;

and wherein

R₁ is H or -CO-R₃ bonded at the α -amino group of the N-terminal of AA;

R₂ is H or -OR₄ or NR₅R₆ all bound to the α -carboxyl group of the α -carboxyterminal

of AA;

R₃ is a straight or branched carbon chain of 1-4 carbon atoms;

R₄ is a straight or branched carbon chain of 1-4 carbon atoms;

R₅ and R₆ independently are H, alkyl, cycloalkyl, aryl or substituted aryl or together are

-(CH₂)_n-, where n is 4-5;

R₁ and R₂ together can form a hydrocarbon ring or heterocyclic ring; and

said amino acids can be either D- or L-isomers.

44. (New) The method of claim 42, wherein all the amino acids of the compound are D-isomers.

45. (New) The method of claim 43, wherein all the amino acids of the compound are D-isomers.

46. (New) The method of claim 42, wherein R₁ is acetyl.

47. (New) The method of claim 43, wherein R₁ is acetyl.

48. (New) The method of claim 42, wherein R₁ is H or R₂ is H.

49. (New) The method of claim 43, wherein R₁ is H or R₂ is H.

50. (New) The method of claim 42, wherein the patient has Alzheimer's disease or another disease characterized by amyloidosis.